Light Rail Information

Light rail is a form of public transportation that operates along a set pathway on steel rails. The light rail system in the Phoenix metropolitan area will operate at street level in its own lane separated from automobile traffic and have a certain level of priority at traffic signals. This dedicated guideway gives light rail vehicles the ability to travel much faster than local buses, offering a reliable travel time over the long term competitive with automobile travel times during peak periods today. Light rail will travel at posted speed limits on city streets and can reach 55 mph in future freeway corridors.

Light rail is powered by electricity from overhead wires, which makes it much safer than other rail systems that receive their power at track level. Electrically powered vehicles are virtually pollution free–a major benefit for a region with air quality concerns. Light rail vehicles are also extremely quiet and make about as much noise as a late model passenger truck.

Light rail will operate on two sets of tracks, with trains of up to three cars traveling in each direction. Light rail trains will operate 18 t0 20 hours per day, every day of the week, stopping at stations about every 10 minutes during peak hours and about every 20 minutes off-peak.

Light rail is truly mass transportation, with the ability to carry up to 450 passengers in a single three-car train. Initially, the system will carry 3,000-5,000 passengers per hour during peak hours, the equivalent of an arterial street. With additional vehicles, the system will ultimately have the capacity to carry the equivalent number of people as a six-lane freeway – or 12 - 15,000 people per hour.

Light rail will be the spine of our regional public transportation system, and is designed to connect seamlessly with bus service.

What does light rail look like?

Light Rail Track

There are various types of track installation. Ballasted track uses crushed rock between the tracks. Embedded track is rail that has been fixed into the roadbed and can be paved or enhanced with decorative brick or concrete pavers. Unlike older rail systems, light rail track is continuously welded, resulting in a smoother and quieter ride.

The METRO system’s track will be embedded or “paved” track through the majority of the initial light rail starter line, with ballasted track in Mesa.

Track placement for the Valley's light rail transit line will be primarily in the street median,

with center station platforms in the median between the tracks, serving passengers traveling in each direction. This placement:

- Allows better access to private property and driveways located curbside. When light rail tracks run along the curb, automobile access to private properties is restricted.
- Enables light rail to operate closer to posted speed limits. It alleviates the danger of automobiles or pedestrians crossing the tracks at curbside, allowing higher operating speeds.

Light Rail Vehicles

Light rail vehicles are electric rail cars approximately 90 feet long, with the capacity to comfortably transport 150 people per car. For our area, they can be linked into trains of up to three cars. Light rail vehicles are double-ended with a transit operator compartment at each end of the vehicle from which one human operator controls the operation of the entire train. This eliminates the need for the train to turn around when it reaches the end of the line. The Valley's light rail system will use low-floor vehicles, allowing passengers to enter at the same height as the station platform-speeding the boarding process for all and making it easier for those with wheelchairs, strollers and bicycles to board.

Light Rail Stations

Light rail stations are locations along a light rail line where trains stop to allow passengers to get on and off. The stations are generally located about a mile apart, but closer in high-density activity areas, such as downtown areas. Stations consist of a large platform, approximately 16 feet wide by 300 feet long - or about a city block long and two downtown sidewalks wide. Platforms typically contain ticket vending machines, information on arrivals and departures, benches, shelters, lighting and other amenities. Stations will be designed to reflect the character of the community, and many stations will incorporate artwork as an important design element. Passengers will access the light rail stations by foot, bike, bus or car, depending on the station. Some light rail stations include park and ride facilities, while others are designed to be accessed primarily by foot or by connections from bus routes. All stations will be designed for accessibility in compliance with the Americans with Disabilities Act. Light rail stations will be located to provide links to local bus service, as well as access to employment centers, sports arenas, attractions, shopping, educational institutions, the airport and other activity centers.